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P-01

A Population-Based Analysis of Outcomes in Patients with Enteropathy-Associated T-cell Lymphoma (EATL)

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Background: EATL is very rare and accounts for less than 1 percent of all non-Hodgkin lymphomas. EATL occurs most commonly in patients with celiac disease and carries a uniformly poor prognosis. The optimal treatment for EATL is unclear and the data is limited to case reports and small retrospective studies.

Methods: ICD-O-3 (9717) histological code was used to identify cases of EATL from the population-based cancer registries of the Surveillance Epidemiology and End Results program (SEER) between 2006 and 2016. Frequency, demographics, and survival data were assessed using SPSS statistical software.

Results: A total of 138 cases were found. The median age of diagnosis was 66. EATL was more common in men (54.3%) and in Caucasians (76.8%). Of all EATL cases, 53.6% received chemotherapy and only 3.6% received radiation therapy. EATL was the cause of death in 58 % of the cases. Median overall survival (OS) was 3 months; 95% CI, (1.4 to 4.5 months) and disease specific overall survival (DSOS) was 8 months; 95% CI, (3.8 to 12.1 months). Chemotherapy significantly improved both OS (7 months vs 1 month; P< 0.001) and DSOS (12 months vs 6 months; P=0.005). Multivariable analysis demonstrated that age, sex, race and radiation therapy were not associated with mortality. Chemotherapy was associated with decreased mortality risk (HR, 0.48; CI, 0.32 -0.71; p< 0.001)

Conclusions: EATL is a rare subtype of non-Hodgkin lymphoma. Despite the advances in treating non-Hodgkin lymphomas, EATL prognosis remains poor. In concordance with previously reported data, chemotherapy has shown to mitigate the poor prognosis associated with EATL in our study.

P-02

Can Diffusion-Weighted Magnetic Resonance Imaging Predict Key Biomarkers In Newly-Diagnosed Myeloma?

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Background: In myeloma, whole-body magnetic resonance imaging (MRI) is widely utilised to assess the burden of osseous disease, demonstrating better sensitivity for focal lesions than earlier techniques, such as skeletal surveys, as well as modern imaging competitors including whole-body computed tomography and positron emission tomography (1). Newer diffusion-weighted MRI sequences (DW-MRI) are frequently used to aid the detection of lesions and measurement of post-treatment response (2). However, key biomarkers utilised in treatment algorithms and prognostic tools (including plasma cell burden and marrow cellularity) rely on invasive bone marrow biopsy (BMB) that has associated morbidity and may not be clinically appropriate for all patients. Therefore, we sought to explore whether apparent diffusion coefficient (ADC) of bone marrow as measured on DW-MRI could predict these key biomarkers in newly-diagnosed myeloma and thus alleviate the need for BMB in some patients.

Materials and Methods: Between April 2019 and June 2020, consecutive patients newly-diagnosed with myeloma at North Shore Hospital Haematology Department in Auckland, New Zealand who underwent both BMB and DW-MRI were included in this study. Imaging was performed on a Philips Achieva dStream 1.5T MRI with coronal whole-body T1W, STIR and DWI (b-value = 900s/mm2) sequences. Bone marrow ADC values were measured in the L1 and L3 vertebral bodies, right sacral ala and proximal left femur. The presence or absence of myelomatous lesions was recorded and all BMB specimens were formally examined. Data regarding immunoglobulin isotype, marrow cellularity and plasma cell burden (as per CD-138 immunohistochemistry) were collated from the digital clinical record that included age and gender. We excluded patients with previously treated myeloma or with non-myeloma diagnoses. Paired multivariate analysis was performed to determine the strength of correlation between the measured parameters using Pearson coefficients (r). Receiver-operator curves were drawn to determine the sensitivity and specificity values at different ADC thresholds.

Results: Data from 33 patients (mean age = 66 years, male = 23, female = 10) were analysed. The median time between imaging and BMB was 7 days. ADC values in the bone marrow ranged from 120μm/s to 1330μm/s with marrow cellularity and plasma cell burden ranging from 10% to 90%, and 5% to 100%, respectively. Following International Myeloma Working Group (IMWG) criteria, 18% of patients had MGUS and the remainder had smouldering or multiple myeloma. There was a moderate positive correlation between sacral ala ADC and plasma cell burden (r=0.59, p< 0.05), although at other locations the overall correlation with BMB biomarkers was variable. Using a sacral ala ADC threshold of ≥430μm/s, sensitivity was 82% and specificity 83% to predict a >=60% plasma cell burden on BMB, a myeloma-defining event per IMWG criteria.

Conclusions: Our findings reveal a moderate positive correlation between sacral ala bone marrow ADC and plasma cell burden on BMB (r=0.59, p< 0.05), with more variability at other sites and with other biomarkers. This has potential as a clinical indication to perform BMB in patients for whom this important diagnostic test would otherwise be deferred on medical grounds.

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